Examples

1. Masonry veneer cavity walls
2. Masonry veneer and metal framing walls
3. Masonry veneer and wood framing walls
4. Pre-cast concrete insulated panels
5 Metal panel on concrete masonry walls
6 Metal panel on metal framing walls

NOTE: Other types of exterior wall construction may be acceptable if type meets or exceeds the above performance standards criteria. Construction standards following, indicated in bold type, are to be considered mandatory minimum requirements. More stringent requirements shall be used when required by the current state building codes and fire prevention codes.

Standards

1. **Impact resistant – must resist breakdown from projectiles**
2. **Moisture resistant – provide vapor retarder to inside of insulation**
3. **Thermal resistant – minimum U-factor of 0.074. Consider long-term performance**
4. **Air Barrier System (Required) Option include:**
   - **a. Self-adhering sheets**
   - **b. Fluid applied membranes**
   - **c. Closed-cell polyurethane insulation**
   - **d. Air barrier transition tape required at masonry control joints**
5 **Minimum maintenance – no routine applied maintenance**
6. **Detail roof/wall intersection to provide a continuous air barrier system**

Guidelines

1. Economical – consider life cycle evaluation
2. Light-colored exterior walls
3. Preference given to non-combustible materials

MASONRY VENEER CAVITY WALLS

Components

1. **Exterior finish**
   a. **Exterior stone, clay, or concrete masonry units**
2. **One inch air cavity (two inch recommended)**
3. **Cavity insulation**
   a. **Rigid insulation or closed cell polyurethane insulation**
4. **Air Barrier System (required)**
5. **Backup material**
   a. **Concrete masonry unit (normal weight)**

Standards

1. **Impact, moisture, and thermal resistant**
2. **Fire resistant**
3. **In-wall flashing – copper fabric laminate; Elastomeric thermoplastic; sheet metal**
4. **Drain cavity with weep holes, 4'0" o.c.**
5. **Steel reinforcement to meet the requirements of the current state building code, including the seismic provisions where applicable**
6. **Rebar shall be minimum grade 60**
7. **Face brick veneer: grade SW**
8. **Concrete masonry: unit compressive strength 1900 psi (13.1 MPa) Use CMU's containing fly ash.**
9. **Insulation: extruded polystyrene board or spray polyurethane foam. Minimum R-value of 10.00.**
10. **For exterior CMU veneer: provide water repellent**

Guidelines

1. Use mortar dropping control product to prevent blocking of weep holes
2. For exterior CMU, provide normal weight (CMU)
3. Thorocoat coating is acceptable

MASONRY VENEER ON METAL FRAMING WALLS

Components

1. **Exterior finish**
   - **a. Exterior stone, clay, or concrete masonry units**
2. **One inch air cavity (two inch recommended)**
3. **Cavity air infiltration barrier**
   - **a. Rigid insulation or closed cell extruded polyurethane insulation**
   - **b. Exterior sheathing**
   - **c. Air barrier membrane**
4. **Bat/blanket insulation with faced membrane**
5. **Back-up material**
   - **a. Cold formed steel framing system**
6. **5/8 inch gypsum wallboard**

Standards

1. **Impact, moisture, and thermal resistant**
2. **In-wall flashing**
3. **Drain cavity with weep holes, 4'0" o.c.**
4. **Mill galvanized wall ties**
5. **Face brick veneer: grade SW**
6. **Concrete masonry veneer: unit compressive strength 1900 psi (13.1Mpa) Optional use of CMU's containing fly ash. Maximize recycled content. Provide color and water repellent.**
7. **Thorocoat is acceptable.**
8. **Steel framing system**
   - **a. Light gauge steel studs (minimum 20 gauge) or as designed by structural engineer.**
   - **b. Pre-engineered steel framing system as designed by structural engineer.**
9. **Use minimum R-19 fiberglass insulation. The paper or foil vapor barrier should be anchored to the face of the studs.**
10. **Insulation could be soybean oil-based polyurethane, open-cell, semi-rigid foam.**

Guidelines

1. Maximize recycled content

PRE-CAST CONCRETE – INSULATED SANDWICH WALL

Components

1. Exterior architectural concrete with smooth or exposed aggregate texture finish or thin brick facing.
2. Rigid cavity insulation.
3. Structural concrete backup.
4. Interior finish, if exposed, to be smooth concrete or exposed aggregate concrete or a surface applied smooth or textured finish.

Standards

1. **Impact, moisture, and thermal resistant**
2. **Low maintenance**
3. **Meet ASHRAE 90.1-2007 (or later) and current state energy code requirements**
4. **Use extruded polystyrene or polyisocyanurate insulation**
5. **Use fiber composite or plastic connectors – no metal connectors**
6. **Concrete materials: Portland cement ASTM C 180, Type I or III; Fly ash, ASTM C 618, Class C or F may be substituted for up to 20 percent of total cementitious materials**
7. **Concrete mix: 28 day compressive strength, 5,000 psi minimum**
8. **Interior surface: paint or skim-coat plaster**

METAL PANEL ON METAL FRAMING

Components

1. **Exterior finish**
   - **a. Exterior metal wall panel system**
2. **Weather barrier**
3. **Air barrier system required**
4. **Batt insulation with vapor barrier**
5. **Backup materials**
   - **a. Cold-formed metal framing**
6. **5/8 inch gypsum wallboard**

Standards

1. **Metal wall panel: 26 gauge minimum thickness zinc-coated (galvanized) or aluminum-zinc alloy-coated sheet steel; fluoropolymer exterior finish with minimum 20 year finish warranty**
2. **Low maintenance**
3. **Moisture and thermal resistant**
4. **Weather barrier: composite, self-adhesive, rubberized-asphalt compound flashing product**
5. **Steel framing system:**
   - **a. Steel studs as designed by structural engineer**
   - **b. Pre-engineered steel framing system as designed by structural engineer**
6. **Provide ASTM C665, Type 1, faced mineral fiber insulation blankets**
7. **Interior surface: painted, 5/8 inch, gypsum wallboard. Use type X where required.**
8. **Insulation could be soybean oil-based polyurethane, open-cell, semi-rigid foam**

Guidelines

1. Maximize recycled content

MASONRY VENEER ON WOOD FRAMING WALLS

Components

1. **Exterior finish**
   - **a. Exterior stone, clay, or concrete masonry units**
2. **One inch air cavity (two inch recommended)**
3. **Cavity insulation extruded polystyrene sheathing**
   - **a. Closed cell**
   - **b. Rigid insulation**
4. **Bat/blanket insulation with vapor barrier**
5. **Backup material:**
   - **a. Wood frame system**
   - **b. Heavy timber system**
6. **5/8 inch abuse/moisture/mold resistant gypsum wallboard**

Standards

1. **Impact, moisture, and thermal resistant**
2. **In-wall flashing**
3. **Drain cavity with weep holes, 4'0" o.c.**
4. **Mill galvanized wall ties**
5. **Face brick veneer: grade SW**
6. **Concrete masonry veneer: unit compressive strength 1900 psi (13.1Mpa) Optional use of CMU's containing fly ash. Maximize recycled content. Provide color and water repellant.**
7. **Wood frame systems or heavy timber systems:**
   - **a. Engineered in strict compliance with requirements of Arkansas State Fire Prevention Code and Building Code.**
   - **b. All lumber used for wood framed wall systems shall be #2 grade, kiln dried Southern Pine; #2 grade, kiln dried, Spruce-Pine-Fir; or #2 grade, Hem-Fir or better.**
8. **Use minimum R-19 fiberglass insulation. The paper or foil vapor barrier should be anchored to the face of the studs.**
9. **Insulation could be soybean oil-based polyurethane, open-cell, semi-rigid foam.**

Guidelines

1. Maximize recycled content